UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/891,032	06/25/2001	Stephen D. Hanna	BLD92000047US1	9462

7590 04/19/2004

Brian C. Kunzler
10 West 100 South
Salt Lake City, UT 84101

EXAMINER	
SORRELL, ERON J	
ART UNIT	**PAPER NUMBER**
2182	8

DATE MAILED: 04/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application	Applicant(s)	
	09/891,032	HANNA ET AL.	
	Examiner	Art Unit	
	Eron J Sorrell	2182	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 March 2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-28* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-28* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 June 2001* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-4, 14-19, and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terashima et al. (U.S. Patent No. 6,538,762 hereinafter Terashima) and further in view of van de Ven (U.S. Patent No. 6,507,347).

4. Referring to method claim 1 and system claim 14, Terashima teaches a method for transmitting a plurality of data types over a plurality of transmission paths, comprising:

storing data of a plurality of compressed and non-compressed data types (see 51-57 of column 5 and lines 33-38 of column 8; Note the "control circuit commands" described in lines 51-57 are non-compressed data);

receiving requests for the stored data (see lines 66-67 of column 8 and lines 1-2 of column 9);

processing the transmitted data in accordance with the type of transmitted data after the transmission of the data (see lines 51-57 of column 5).

Terashima fails to teach transmitting data of both the compressed and non-compressed data types over each of a plurality of transmission paths.

van de Ven teaches and a method and system wherein both compressed and non-compressed data types are transmitted over each a plurality of transmission paths (see lines 15-20 of column 4).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the method and system with the above teachings of van de Ven. One of ordinary skill in the art at the time of the applicant's invention would have been motivated to make such modification in order to provide selected data compression for digital images as suggested by van de Ven (see lines 47-50 of column 3).

5. Referring to method claim 2 and system claim 15, Terashima discloses the storing of the compressed data further comprises placing the data in a plurality of FIFO buffers (see lines 51-57 of column 5).

6. Referring to claim 3, Terashima discloses further requesting the stored data by introducing an identification pattern into a transmission request, the identification pattern associated with the data type being transmitted at the same time as the data being transmitted (see lines 1-41 of column 5; Note the "command codes" are interpreted as the identification pattern).

7. Referring to claim 4, Terashima discloses transmitting data both of the compressed and non-compressed data types further comprises transmitting the data identification pattern associated with the data type being transmitted at the same time as the data being transmitted (see lines 42-57 of column 5).

8. Referring to claim 16, Terashima discloses the handshaking control module is further configured to receive data from a host

and place the received data into the memory module (see lines 42-57 of column 5).

9. Referring to claim 17, Terashima discloses the handshaking module is configured to place the data received into one of the plurality of FIFO buffers depending on the type of data received (see lines 42-57 of column 5).

10. Referring to claim 18, Terashima discloses the handshaking control module is configured to receive requests for print data from the data processing module (see figure 3; Note item labeled 5 corresponds to the handshaking module).

11. Referring to claim 19, Terashima discloses the handshaking control module is configured to place the data requested from the data processing module on the data bus appropriate for the data type requested (see items labeled 59 and 61 in figure 5).

12. Referring to claim 23, Terashima discloses the data processing module is configured to evaluate header information relating to the print job to determine what types of data to request from the handshaking control module (see lines 1-41 of column 5).

13. Claims 5-7 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terashima in view van de Ven as applied to claim 1 above and of Notredame et al. (U.S. Patent No. 6,049,390 hereinafter Notredame).

14. Referring to claims 5-7, the combination of Terashima and van de Ven fails to disclose the transmitting data of both the compressed and non-compressed data types further comprises transmitting Linework (LW) data, Linework control (LWC) data, and continuous tone (CT) data over any one of a plurality of transmission paths, however Terashima does disclose using image conversion parameters for correctly converting raster images (see lines 54-60 of column 2).

Notredame discloses raster images compression schemes comprising LW data LWC data, and CT data (see lines 62-67 of column 2 and lines 1-20 of column 3).

It would have been obvious to one of ordinary skill in the art a the time of the applicant's invention to modify the combination of Terashima and van de Ven such that the transmitting of the compressed and non-compressed data types further comprises transmitting Linework (LW) data, Linework

control (LWC) data, and continuous tone (CT) data over any one of a plurality of transmission paths. Notredame suggests using these schemes results in a more efficient use of bandwidth (see lines 62-64 of column 2).

15. Referring to claim 20, the combination of Terashima and van de Ven fails to disclose the handshaking control module being configured to place continuous tone (CT) data upon a dedicated CT bus.

Notredame discloses that continuous tone data is totally different from Linework data as well as the compression schemes (see lines 62-67 of column 2 and lines 1-19 of column 3);

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Terashima and van de Ven with the teachings of Notredame such that CT data is placed on a dedicated CT bus because the data are completely different and require different spatial frequencies as taught by Notredame (see lines 11-19 of column 3).

16. Referring to claims 21 and 22, the combination of Terashima and van de Ven fails to disclose that the LW or LWC data is placed on the least busy of the buses used for LW or LWC data.

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Terashima and van de Ven such that the LW or LWC data is placed on the least busy of the buses used for LW or LWC data because this would speed up print processing and Terashima suggests that the optimum methods should be used to for printing purposes (see lines 54-60 of column 2).

17. Claims 8,9,24, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terashima in view of van de Ven in as applied to claim 1 above and further in view of Har et al. (U.S. Patent No. 6,310,563 hereinafter Har).

18. Referring to method claim 8 and system claim 24, the combination of Terashima and van de Ven fails to disclose the method further comprising reading a word of the data in to a data decompression module every one half-clock cycle.

In an analogous method, Har teaches reading a word of the data into a data decompression module every one-half clock cycle (see lines 41-62 of column 11).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Terashima and van de Ven such that is comprises

reading a word of the data in to a data decompression module every one half-clock cycle. One of ordinary skill in the art would have been motivated to make such modification in order to reduce potential bottlenecks in the system as suggested by Har (see lines 41-62 of column 11).

19. Referring to method claim 9 and system claim 25, Har teaches multiplexing the different types of data and processing each type of data received in accordance with the type (see item labeled 180 figure 1).

It would have been obvious to one of ordinary skill in the art at the time of the applicant's invention to modify the combination of Terashima and van de Ven with the above teaching of Har. One of ordinary skill in the art would have been motivated to make such modification in order to prevent errors from occurring due to processing data incorrectly.

20. Claims 10-13 and 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Terashima in view van de Ven in view of Har and further in view of Notrdame.

21. Referring to method claims 10 and 11 and system 26 and 27, the combination of Terashima, van de Ven, and Har fail discloses

losslessy decompressing the data when the data received is Linework (LW) data or Linework control (LWC) data.

In an analogous method Notredame teaches losslessy decompressing the data when the data received is Linework (LW) data or Linework control (LWC) data (see lines 10-19 of column 3).

It would have been obvious to one of ordinary skill in the art a the time of the applicant's invention to modify the combination of Terashima, van de Ven and Har such that it comprises losslessy decompressing the data when the data received is Linework (LW) data or Linework control (LWC) data in order to reproduce the compressed document without decreasing the print quality.

22. Referring to method claim 12 and system claim 28, Terashima discloses decompressing any compressed data when it is received (see lines 33-38 of column 8).

23. Referring to claim 13, the limitations set forth in this claim are the same limitations of claims 1-12, thus claim 13 is rejected under the same grounds as the rejections of claims 1-12.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eron J Sorrell whose telephone number is 703 305-7800. The examiner can normally be reached on Monday-Friday 9:00AM - 5:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffery A Gaffin can be reached on 703 308-3301. The fax phone numbers for the organization where this application or proceeding is assigned are 703 746-7239 for regular communications and 703 746-7238 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 305-3900.

EJS
April 13, 2004

JEFFREY GAFFIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100